INCH-POUND

MIL-DTL-12883/2E
18 February 2003
SUPERSEDING
MIL-PRF-12883/2D
28 June 1996

DETAIL SPECIFICATION SHEET

SOCKETS AND ACCESSORIES FOR PLUG-IN ELECTRONIC COMPONENTS (ELECTRON TUBE, TOP MOUNTING, SADDLE TYPE WITH SHIELD BASE, 7 CONTACT, RADIAL)

Inactive for new design after 3 February 1978. For new design use MIL-DTL-12883/10

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-DTL-12883.

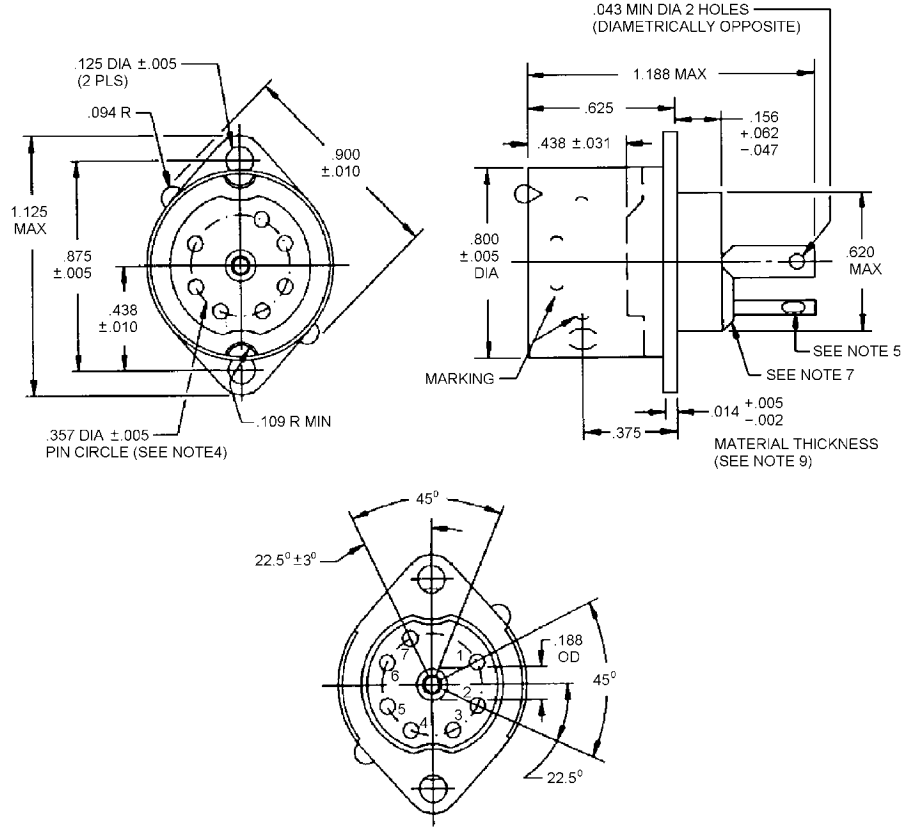


FIGURE 1. Socket configuration.

Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
.002	0.05	.043	1.09	.125	3.18	11.13	.438	.900	22.86
.005	0.13	.047	1.19	.156	3.96	.620	15.75	1.125	28.58
.010	0.25	.062	1.57	.188	4.78	.625	15.88	1.188	30.18
.014	0.36	.094	2.39	.357	9.07	.800	20.32		
.031	0.79	.109	2.77	.375	9.52	.875	22.22		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± .016 inch (0.41 mm) and ± ½º on angles.
4. Seven contact cavities equally spaced through 270º of arc, and each cavity located within ½º of true position shall be established along the pin circle.
5. Each contact tab shall have either:
   a. 1 wire hole of .040 inch (1.02 mm) minimum width and .125 inch (3.18 mm) minimum length.
   b. Two holes of .040 inch (1.02 mm) minimum width and .075 inch (1.91 mm) minimum length.

   The contact tab hole, or holes shall lie on the longitudinal centerline of the contact tab within ± .008 inch (0.20 mm).
6. An orientation slot or tongue, or other suitable means to serve as a guide for proper positioning of all applicable electron tube in the socket contacts, shall be placed on the shield, mounting between contacts 1 and 7.
7. The design of bosses and the shape of barriers, when used, are optional. When present, barriers shall have a maximum height of .062 inch (1.57 mm).
8. Clearance between the cavity wall and the contact, with the contact in any position, shall be no greater then .018 inch (0.46 mm).
9. Material thickness of mounting flange shall be measured in an area where burring or dishing of the mounting hole is not present.

FIGURE 1. Socket configuration – Continued.

REQUIREMENTS:

Dimensions and configurations: See figure 1 and table I.

Insulating material: Ceramic, Diallyl Ortho-Phthalate in accordance with ASTM PS 15 type, SDG-F, GDI-30F, or mineral-filled Phenolic resin in accordance with ASTM D5948 type MFE, see table I.

Contact cavities: One shape only; D-shaped or circular, at option of the manufacturer.

Electrical:

Insulation resistance: 1,000 megohms minimum. Test pin diameter: .040 ± .001 inch (1.02 ± .03 mm).

Dielectric withstanding voltage:

Sea level: Test voltage: 2,000 volts root mean square (ms). Test pin diameter .040 ± .001 inch (1.02 ± .03 mm).

High altitude: Test voltage: 600 volts ms. Test pin diameter: .040 ± .001 inch (1.02 ± .03 mm).

Contact resistance:

Average for all contacts: 0.015 ohm maximum.

Individual contacts: 0.03 ohm maximum.

Continuity test circuit: With the header test-gage(s) inserted into the sockets(s) under test, the pins of the test-gage(s) and the contacts of the sockets(s) under test shall result in a series circuit. The header shall be the – one used for electron tube 6AU6WB.

Mechanical:

Insertion and withdrawal force:

Initial insertion force: 15 pounds (67 newton) maximum.

Average withdrawal force: 12 pounds (53 newton).

Initial withdrawal force: 4 pounds (18 newton) minimum, 12 pounds (53 newton) maximum.

Vibration: The test gage shall be in approved electron-tube type 6AU6WC in accordance with MIL-E-1/952.

Durability: After the durability test, the withdrawal force shall be 2 pounds (9 newton) minimum.

Static load: 40 pounds (178 newton).

Float: With a pin of .041 inch (1.04 mm) diameter and .271 inch (6.88 mm) minimum length fully inserted in a socket contact, the contact shall be capable of free movement (float) within the contact cavity.

Saddle (with shield base): The saddle shall be integral with the shield base. The method of attaching the saddle (with shield base) to the insulator body, and the shape of the saddle (with shield base) where attachment is effected, are optional.

The part shall be designed to operate at the following conditions:

Environmental:

Operating temperature: See table I.

TABLE I. Dash number and characteristics.

Dash number	Operating temperature ºC	Insulating material	Old type designator and replacement data 1/
-01	200	Ceramic	TS102C01 (2-way)
-02	100	SDG-F or GDI-30F	TS102P01 (1-way)
-03	100	MFE	TS102P01 (2-way)

1/ 1-way replacement: The new item (designated by military Part or Identifying Number PIN)) will replace the old item (formerly designated by type designator); however, the old item will not replace the new item.
2-way replacement: The two items are interchangeable; i.e., the new item will replace the old item, and the new item will replace the new item.

Ratings (absolute maximum):

Voltage:
Sea level: 500 volts rms.
50,000 feet (15.24 km): 225 volts rms.

Current: 1 amperes.

Operating temperature: See table I.

Test gage details: See table II and MIL-DTL-12883 (see appendix).

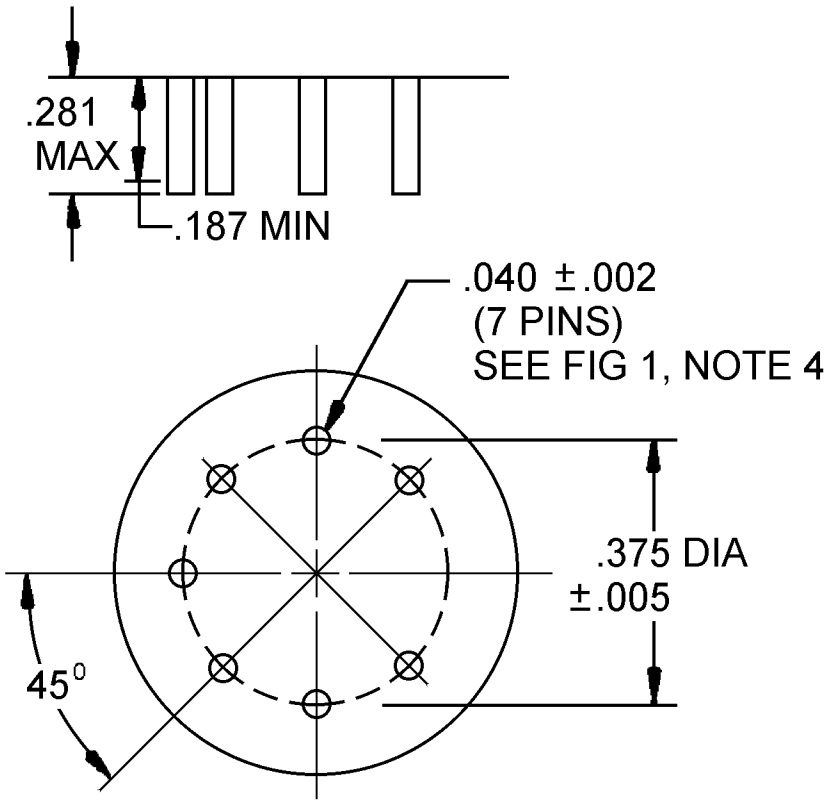
TABLE II. Test gage details. 1/ 2/

Inspection	A Pin length (mm)	B Pin dia (mm)	M Test-end dia (mm)	C Pin-circle dia (mm)	N Probe-end dia (mm)
Insertion and withdrawal force	.276 ±.005 (7.01 ±0.13)	.0390 ±.0001 (9.525 ±0.003)	---	.3750 (9.525) basic	---
Contact resistance	.276 ±.005 (7.01 ±0.13)	.0390 ±.0001 (9.525 ±0.003)	---	.3750 (9.525) basic	---
Contact retention	.276 ±.005 (7.01 ±0.13)	---	.0390 ±.0001 (.991 ±0.003)	---	.0410 ±.0001 (1.041 ±0.003)
Durability	.276 ±.005 (7.01 ±0.13)	.0410 ±.0001 (1.041 ±0.003)	---	.3750 (9.525) basic	---

Inspection	D Gage dia max (mm)	No. of pins	Total Weight of gage ounces (grams) (±5%)
Insertion and Withdrawal force	11/16 (17.46)	7	---
Contact resistance	11/16 (17.46)	7	---
Contact retention	---	---	3 (85.05)
Durability	11/16 (17.46)	7	---

1/ Dimensions are in inches.
2/ Metric equivalents are given for general information only.

Mating-base dimensions: Sockets shall accommodate plug-in components having mating-base dimensions as shown on figure 2.



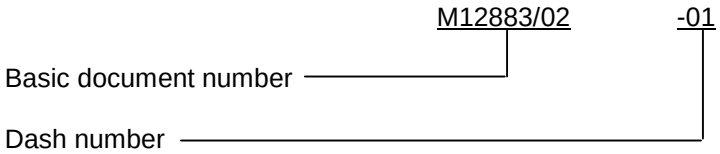
Inches	mm
.002	0.05
.005	0.13
.040	1.02
.187	4.75
.281	7.14
.375	9.52

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± .002 inch (0.05 mm).

FIGURE 2. Mating-base dimensions.

PIN: The PIN shall consist of the basic number of this specification sheet and the dash number from table I.

Example:



The Government PIN, specified in table III, supersedes the following commercial PIN.

TABLE III. Supersession and cross reference data.

Active Government PIN	Superseded PIN					
	CAGE 72825	CAGE 80009	CAGE 28499	CAGE 10001	CAGE 10001	CAGE 77820
M12883/02-01	9726-153-O5	NA	NA	865200	879231PC103	C287037-2
M12883/02-02	TBD	14-1049-00	69005-77130	NA	NA	NA
M12883/02-03	TBD	NA	NA	NA	NA	NA

Active Government PIN	Superseded PIN					
	CAGE 81350	CAGE 18876	CAGE 99993	CAGE D1901	CAGE 96214	CAGE 26600
M12883/02-01	JANS28	8027423 829190	N16S62603-6700	TSE9T102	402656-5	147-913 147-925

Active Government PIN	Superseded PIN					
	CAGE 37695	CAGE 13499	CAGE 03538	CAGE 49956	CAGE D8385	CAGE 80045
M12883/02-01	187882-5	220-1111-00	232B847P2	282-01001P1 282-1001P1 MS008P001	3050015171 3050025171 831B28E	398669

Active Government PIN	Superseded PIN			
	CAGE 71785	CAGE D1901	CAGE 80249	CAGE 03538
M12883/02-01	111-11-22-142 13723 53B12363NEW 53B13723 53C20350PHBR 54B12599 7XC 7XCOLD 7XM	D1901	350005-12	TSE9T104742349P001

CONCLUDING MATERIAL

Custodians:
Navy – EC
Army – CR
Air Force – 11
DLA – CC

Review activities:
Navy – AS, CG, MC, SH
Army – AT, AV, CR4, EA, MI
Air Force – 99

Preparing activity:
DLA – CC

(Project 5935-4344-02)